



ARI's Program to Support AIM's Operational Use in GED Plus

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Briefing Overview

- **What is AIM?**
- **AIM's Performance Under the GED Plus Program**
- **Plans for Improving AIM's Performance**
- **Milestones and Future Directions**



What is AIM?

- **27-item, self-report measure of Leadership, Adjustment, Physical Conditioning, Work Orientation, Dependability, and Agreeableness**
- **Predicts “will do”, motivational aspects of performance**
 - Effort and Leadership
 - Personal discipline
 - Fitness and military bearing
 - Attrition
- **Successor to self-report instrument, ABLE from Army’s Project A, but designed to be more resistant to faking**



Diploma as Predictors of 18-Month Attrition ($N =$

Based on *research sample* of 21,038 Regular Army recruits who completed AIM at all Reception Battalions from SEP 1998 - MAY 1999

<u>Predictor</u>	<u>r^a</u>
AIM Composite	-.112
HSDG	-.085

Attrition Rates By AIM / HSDG Status

Low AIM (lowest 15.9%)	34.6%
Higher AIM (top 84.1%)	21.6%
Non-HSDG (15.9%)	32.0%
HSDG (84.1%)	22.1%

^aPhi coefficients are presented. To compute this coefficient for AIM, AIM is scored dichotomously with 0 as the lowest 15.9% of AIM scores which corresponds to the % Tier 2 in the sample. The corresponding point-biserial correlation is -.135.



AIM's Performance Under the GED Plus Program (FEB 2000 and beyond)



GED Plus Program

- **Experimental pilot program for expanding the recruiting market among Tiers 2 & 3 (nongraduates)**
 - 20% of youth market does not graduate from high school
 - Non-graduates are disproportionately minorities; minority market is large and growing
 - New accessions from GED Plus do not count against the DoD-imposed cap of 10% Tier 2/3 accessions
- **GED Plus pilot program is being evaluated as part of a large Army experiment**
 - Test period is 3 FEB 2000 – 30 SEP 2003
 - Program evaluation being conducted by RAND
- **AIM used as attrition-screening tool**
 - Help offset higher attrition propensity of youth in Tiers 2 & 3



AIM's Performance Under GED Plus: Current Operational Composite

- Mean AIM score in GED Plus is .8 standard deviation higher than mean score in research sample
- AIM's validity is lower than in the research sample

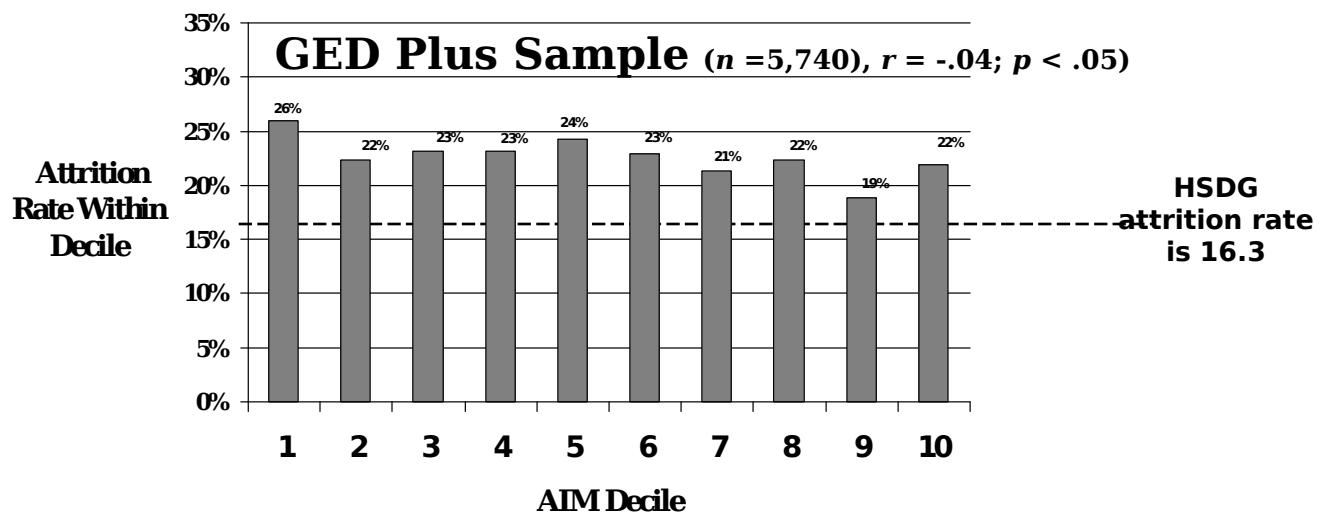
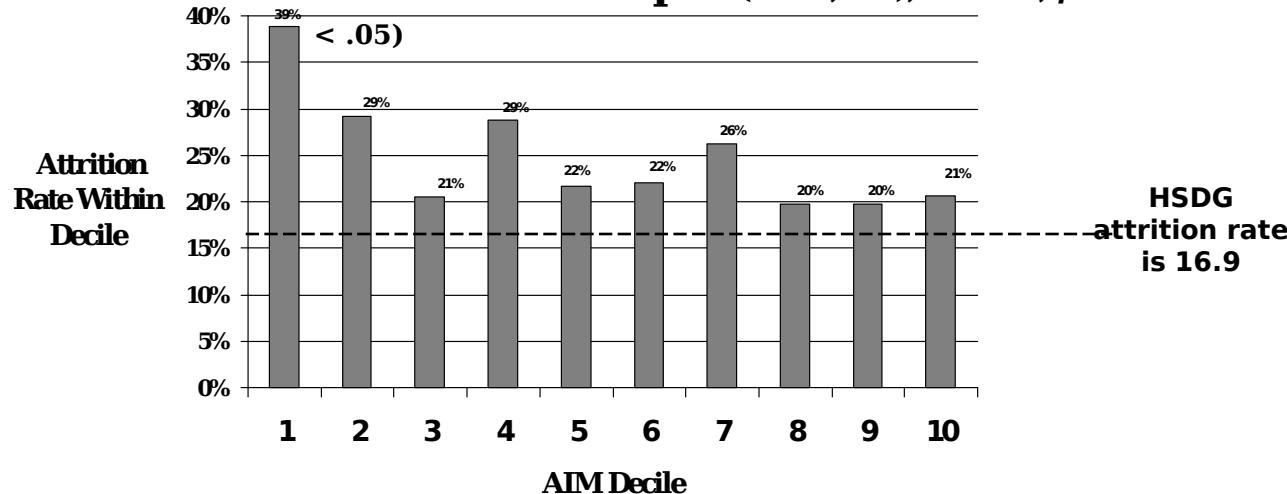
Test Validity By Sample and Attrition

Criterion	3-Month Attrition (n = 8,200)	6-Month Attrition (n = 7,400)	9-Month Attrition (n = 5,200)	12-Month Attrition (n = 3,800)
Operational Sample	-.02 (n = 8,200)	-.03* (n = 7,400)	-.04* (n = 5,200)	-.03* (n = 3,800)
Research Sample (n = 3,350 Tier 2) * $p < .05$	-.10*	-.11*	-.11*	-.12*



Relationship Between AIM & 9-Month Attrition: Tier 2 Research

Sample vs. GED Plus Sample



Note: Deciles are based on existing operational AIM composite.



Plan For Improving AIM's Performance

In GED Plus

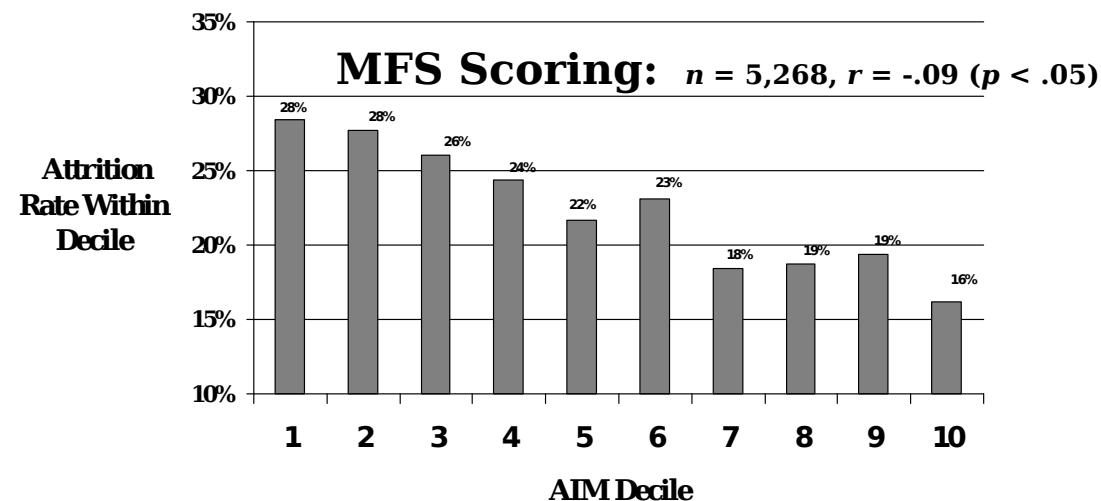
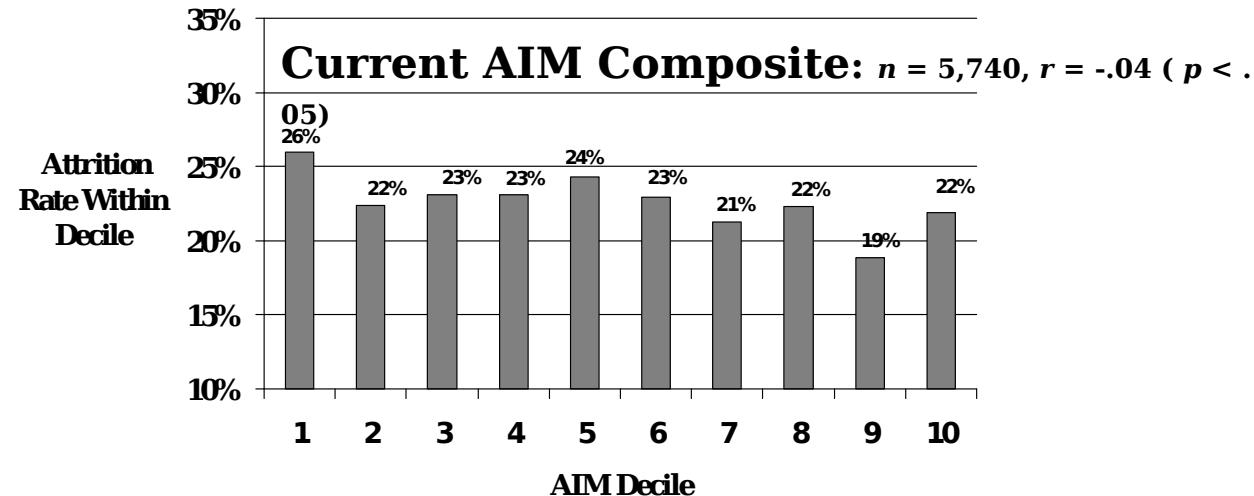


Improving AIM's Performance

- **New and highly complex approaches to scoring AIM to predict attrition have been developed by a team of researchers at the University of Illinois.**
 - Multilinear Formula Scoring (MFS)
 - Based on Item Response Theory
- **ARI is exploring supplemental measures for joint use with AIM to enhance attrition prediction**
 - Attrition is a complex event with multiple causes
 - No single measure is likely to be highly related to attrition
 - Improved prediction can result from joint use of multiple measures
 - Examples of supplemental measures: ASVAB subtests, age



Relationship Between AIM & 9-Month Attrition: Current Composite vs. MFS Scoring



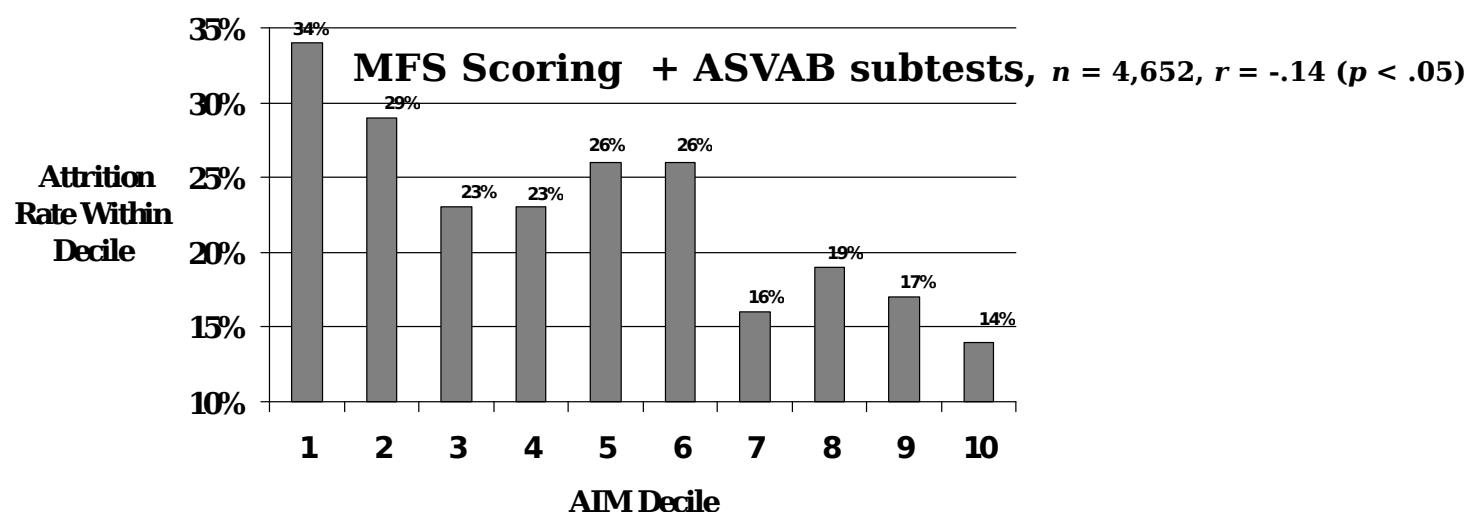
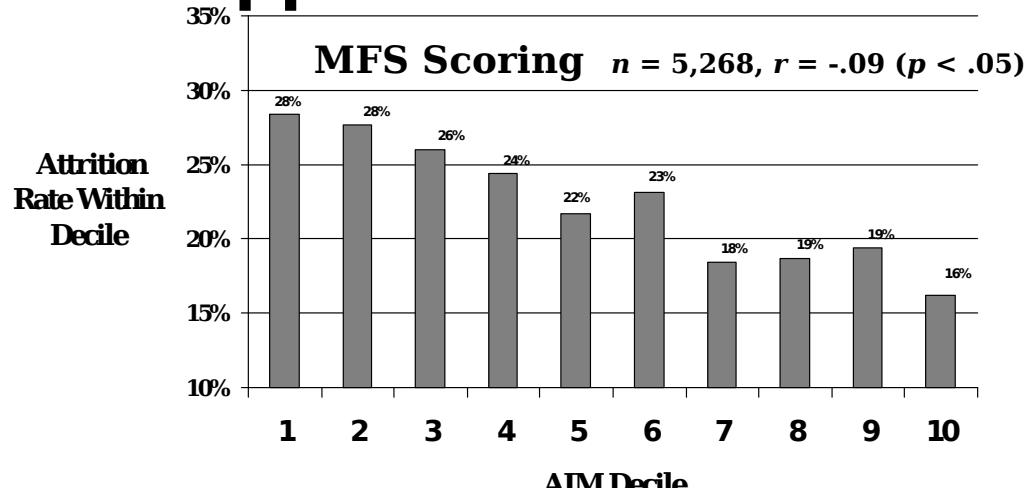


MFS Scoring For AIM

- **Improves attrition prediction**
 - Validities in operational sample approach the validities of current operational composite found in research sample
 - With more data, higher predictive validities can be achieved over time
- **No evidence that AIM screening would adversely impact females or minorities at feasible enlistment standards**
- **Makes AIM more difficult to fake/coach**
- **MFS approach may eventually enhance ability to detect faking and adjust scores for faking**



Relationship Between AIM & 9-Month Attrition: New MFS Score + Supplemental Measures





Milestones

ARMY OPERATIONAL DECISIONS ON AIM:

- ARI recommends new AIM score with supplementals to replace existing operational composite
 - Recommendation will be made in coordination with RAND
- New score to replace operational AIM composite?
- Implementation of Computerized AIM?
- Continue GED Plus Program beyond SEP 2003 ?

STUDY REPORTING:

- **OCT 02:** Final report on ARI's 2001-2002 AIM program



Summary

- **AIM scores of GED Plus applicants are higher and less predictive of attrition – compared with previous research sample**
 - Higher scores (.8 SD) explain low failure rate (appx 5%) for current composite
 - Higher scores may be due to faking, because there was less motivation to fake in the research sample (I.e., the scores didn't count)
 - Investigate reasons for escalation in operational score
- **MFS scoring helps to restore AIM's validity against attrition**
- **Supplemental measures used jointly with AIM improve attrition prediction**



Summary

- **Research findings support continued use of AIM for attrition screening under GED Plus**
 - ARI will soon recommend revised AIM score and supplemental measures to replace existing operational composite
 - New cut score recommendation is required based on new AIM screening criteria
 - ARI's recommendations to the Army will be made in coordination with RAND